

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

MICHAEL F. EASLEY
GOVERNOR

LYNDO TIPPETT SECRETARY

October 29, 2004

Addendum No. 2

RE:

TIP U-3101C & D

Contract ID: C200912 WBS # 34897.3.4

Federal Aid No.: STPNHF-0001 (106)

Wake County

Cary-US I-64/SR 1009 (Tryon Road) Interchange to South of I-40

November 18, 2004 Letting

To Whom It May Concern:

Reference is made to the Request for Proposal recently furnished to you on the above project. The following revisions have been made to the Request for Proposal:

On page 1, the *Contract Time and Liquidated Damages* has been revised. On pages 4 through 4b a provision for *Alternative Incentive Scenario* has been added. Please void Pages 1 through 4 in your proposal and staple the revised Pages 1 through 4b thereto.

On page 48, the Traffic Control Scope of Work has been revised. Please void Pages No. 48 and 49 in your proposal and staple the revised Pages No. 48 and 49 thereto.

The Table of Contents has been revised to reflect the above changes. Please void the Table of Contents in your proposal and staple the revised Pages thereto.

Sincerely.

R.A. Garris, P.E. Contract Officer

- c: Ms. Deborah Barbour, P.E.
 - Mr. Steve Dewitt, PE (w/attachment)
 - Mr. Victor Barbour, PE (w/attachment)
 - Mr. Art McMillan, P.E.
 - Mr. Rodger Rochelle, PE (w/attachment)
 - Ms. Emily Lawton, FHWA (w/attachment)
 - Mr. Jay Bennett, PE (w/attachment)
 - Mr. Andy Gay, PE (w/attachment)
 - Mr. Ron Davenport, PE (w/attachment)
 - Ms. Marsha Sample (w/attachment)
 - Mr. Mitch Hendee, PE (w/attachment)
 - Mr. Njorge W. Wainaina, PE (w/attachment)
 - Mr. K. J. Kim, PE (w/attachment)
 - Mr. Neal Strickland (w/attachment)
 - Mr. Barney Blackburn, PE (w/attachment)
 - Mr. Ayman Alqudwah, PE (w/attachment)
 - Mr. Marshall Clawson, PE (w/attachment)
 - Ms. Betsy Cox, P.E.
 - Mr. Lonnie Brooks, PE (w/attachment)
 - Mr. Clark Morrison, PE (w/attachment)
 - Mr. Roger Worthington, PE (w/attachment)
 - Mr. Jay Stancil (w/attachment)
 - Ms. Sherry Yow (w/attachment)
 - Mr. Richy Narron (w/attachment)
 - Tim Williams, PE (w/attachment)
 - Mr. Phillip Todd (w/attachment)
 - Mr. Tracy Parrott, PE (w/attachment)
 - Mr. Jimmy Goodnight, PE (w/attachment)
 - Ms. Michelle Long, PE (w/attachment)
 - Town of Cary (Attn: Kyle Hubert) (w/attachment)
 - Technical Review Committee Members (w/attachment)
 - File (w/attachment)

TABLE OF CONTENTS

COVER SHEET	
PROPOSAL SHEETS	
PROJECT SPECIAL PROVISIONS (GREEN SHEETS)	PAGE NO.
Contract Time and Liquidated Damages	1
Intermediate Contract Time #1, Bonus	
Substantial Completion for Intermediate Completion Time #1	
Intermediate Completion Time #2, Bonus	
Substantial Completion for Intermediate Completion Time #2	
Alternate Incentive Scenario	0.0000000000000000000000000000000000000
Other Liquidated Damages and Incentives	
Progress Schedule	
Delay of Entry	
Building Removal By Others	
Partnering	
Execution of Signature Sheets and Debarment Certification	
Submission of Design-Build Proposals	
Confidential Questions	
Value Analysis	
Schedule of Estimated Completion Progress	
Disadvantaged Business Enterprise	
Certification for Federal-Aid Projects	
Contractor's License Requirements	23
Domestic Steel and Iron Products	23-24
U. S. Department of Transportation Hotline	24
Submission of Records – Federal-Aid Projects	24-25
Design Build Team Borrow Source	25
Subsurface Information	26
Training Requirements	26
Safety Vests	
Bid Documentation	
Twelve Month Guarantee	
Outsourcing Outside the U.S.A	
Disqualification of Bidders	
Clearing and Grubbing.	
Price Adjustments for Asphalt Binder	
Price Adjustments Asphalt Concrete Plant Mix	
Control of Noise	32
GENERAL (GREEN SHEETS)	33-44
SCOPES OF WORK (GREEN SHEETS)	
Design Build	45-47
Traffic Control	

SmartZone	62-65
Public Information	66-67
Utility Coordination	68-74
Utility Construction	75
Alternate Pavement Design	
Construction Engineering Inspection	
Cement and Lime Stabilization	
PROJECT UNIT SPECIAL PROVISIONS (YELLOW SHEETS)	
Signing	83-136
Traffic Control	
Moveable Concrete Barrier	145-146
Department Furnished Moveable Concrete Barrier	
Department Furnished Transfer and Transport Vehicle(s)	
Luminaire Retrieval System	
Lighting for Overhead Sign Assembly	
Overhead Sign Assemblies	
Omni-Directional Breakaway Steel Beam Sign Supports	
Roadway Lighting	
Utility Construction	
Erosion and Sedimentation Control	
Traffic Management and Signal Systems	185-215
Intelligent Transportation Systems	
Structure/Culverts	
Town of Cary Gateway	282-350
PERMITS (WHITE SHEETS)	351-419
STANDARD SPECIAL PROVISIONS (YELLOW SHEETS)	
Retainage and Prompt Payment	
Plant Pest Quarantine	
Burning Restrictions	
Excavation of Rock by use of Explosives	
Shallow Undercut	422-423
Borrow Excavation (Excavation of Wetlands)	
Shoulder and Fill Slope Material	
(mm) Welded Steel Pipe	
Flowable Fill	
Aggregate for Soil Cement Base	
Lime and Cement Treated Soil	
Asphalt Pavements- Superpave	
Asphalt Binder Content of Asphalt Plant Mixes	
Tying Proposed Asphalt Pavement to Existing Concrete Pavement	
Sealing Existing Pavement Cracks	440-441
Filter Fabric for Permeable Asphalt Drainage Layer	441-442

Tying Proposed Concrete Pavement to Existing Concrete Pavement	442
Tying Proposed Concrete Pavement to Proposed Asphalt Pavement	442
Construction Surveying	
Disposal of Waste and Debris	443
Endwalls	443
Converting Existing Drop Inlet to Junction Box	443
Remove and Stockpile Existing Guardrail	443-444
Guardrail Posts and Offset Blocks	444-445
Guardrail Anchor Units, Type 350	445-446
Impact Attenuator Units, Type 350	446-448
Preformed Scour Hole with Level Spreader Apron	448-449
Concrete Paved Ditch Level Spreader	449-450
Concrete Sidewalks, Driveways, and Wheelchair Ramps	450-451
Retrofitting Wheelchair Ramps with Detectable Warnings	
Street Signs and Markers and Route Markers	
Aggregate Production	452
Concrete Brick and Block Production	452
Fine Aggregate	452-453
Borrow Material	
Metal Posts and Rails	453-454
Coated, Paved, Lined Corrugated Steel Culvert Pipe	454
Drums	454
Portable Concrete Barrier	
Pavement Marking General Requirements	455
Unpaved Level Ditch Spreader with Wall	
Cross Vane Rock Weir with Footer Rock	
Permanent Soil Reinforcement Mat	
Rock Plating	458-459
Sound Barrier Wall	459-460
General Requirements for Portland Cement Concrete Pavement	
Availability of Funds – Termination of Contracts	
General Seed Specification for Seed Quality	466-467
Litata	468-469
Award of Contract	470
Minority and Female Employment Requirements	471-473
Required Contract Provisions Federal-Aid Construction Contracts	474-482
Training Special Provisions	483-485
Wage Rates	486-489
Division One	490-568

PROPOSAL FORM ITEM SHEET, ETC.

Item Sheet Award Limits Signature

PROJECT SPECIAL PROVISIONS

CONTRACT TIME AND LIQUIDATED DAMAGES (Projects with Permits)

The date of availability for this contract is **January 5, 2005** except that work in jurisdictional waters and wetlands shall not begin until a meeting between the DOT, Regulatory Agencies, and the Design Build Team is held as stipulated in the permits contained elsewhere in this proposal. The Design Build Team shall consider this factor in determining the proposed completion date for this project.

The completion date for this contract is defined as the date proposed in the Technical Proposal by the proposer who is awarded the project. The completion date thus proposed shall not be later than **May 1, 2007**.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and/or intermediate completion times. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

The liquidated damages for this contract are **Twenty Thousand Dollars** (\$20,000.00) per calendar day. As an exception to this amount, where the contract has been determined to be substantially complete as defined in "Substantial Completion For Intermediate Completion Time #2" contained elsewhere in this package, the liquidated damages will be reduced to **Five Thousand Dollars** (\$5,000.00) per calendar day.

Where the Design Build Team who is awarded the contract has proposed a completion date for the contract as required above, but also has proposed an earlier date for substantial completion, then both of these proposed dates will become contract requirements.

Liquidated damages of **Twenty Thousand Dollars** (\$20,000.00) per calendar day will be applicable to the early date for substantial completion proposed by the bidder. Liquidated damages of **Five Thousand Dollars** (\$5,000.00) per calendar day will be applicable to the final completion date proposed by the bidder.

Liquidated damages of **Ten Thousand Dollars** (\$10,000) per calendar day will be applicable if the contractor fails to complete the requirements of "Substantial Completion for the Intermediate Completion Time #1", by **November 17**, 2005. Liquidated damages of **Ten Thousand Dollars** (\$10,000) per calendar day will be applicable if the contractor fails to complete the requirements of "Substantial Completion for the Intermediate Completion Time #2", by **November 17**, 2006. DB1G04

INTERMEDIATE COMPLETION TIME #1 AND BONUS

The Contractor shall select a direction of travel and shall substantially complete all work necessary, and shall place traffic on, the selected directional lanes throughout the project limits, including ramps and loops to and from the selected direction. This shall be defined as Direction #1.

After placing traffic on Direction #1 lanes, the Design Build Team shall not place two-way traffic on the completed lanes. Traffic on the newly constructed lanes shall be maintained in one direction only. One lane may be narrowed or closed subject to the conditions in the Traffic Control Scope of Work.

The date of availability for this intermediate completion time is January 5, 2005.

The completion date for this intermediate completion time shall be no later than **November 17**, **2005**. The Department desires that this intermediate completion time be substantially completed by this date, and that the Contractor pursue the work with such labor, equipment and materials as necessary to ensure that the intermediate completion time will be met without regard to the time extensions and time reliefs provided for in the Specifications, Therefore, as full compensation for all extra cost involved, the Department agrees to pay as a bonus, the sum of **Seven Hundred Fifty Thousand Dollars (\$750,000.00)** to the Contractor for substantially completing this intermediate completion time on or before **November 17**, **2005**. Should the Contractor fail to substantially complete by this date, then no bonus will be paid under this intermediate completion time.

The Design Build Teams shall state in their Technical Proposal, their proposed date for Intermediate Completion Time #1. If no date is proposed it shall be deemed to be November 17, 2005.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and/or intermediate completion times stated in the contract. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

SUBSTANTIAL COMPLETION for Intermediate Completion Time #1 and Bonus

The definition of substantial completion for this intermediate completion time and bonus is as follows:

- 1. Through traffic has been placed in its final pattern along Direction #1 travel lanes and all affected ramps and loops. In addition, Y-lines and bridge construction associated with the affected ramps and loops shall be complete to the extent required for ramp/loop operation required by this intermediate completion time, the work is complete to the extent specified below, and all lanes and shoulders are open such that traffic can move unimpeded at the posted speed.
- 2. The final pavement for all lanes and outside shoulders along Direction #1 travel lanes, ramps and loops or along the work required by this intermediate completion time are complete.
- 3. All signs for Direction #1 travel lanes, ramps and loops, and affected Y-line segments are complete and accepted for safe traffic passage.

4. All drainage devices, ditches, excavation and embankment are complete for Direction #1 travel lanes, ramps and loops. Complete all guardrail and outside barrier excluding the permanent median barrier per Traffic Control scope requirements. Provide a minimum 4 feet paved shoulder on the inside lane with the appropriate protection for traffic. Outside paved shoulders, guardrail and barrier shall be completed in their entirety.

5. Remaining work along Direction #1 travel lanes, ramps and loops consists of permanent pavement markings, permanent pavement markers or construction that is away from the paved portion of the roadway.

Upon apparent substantial completion of the work required by this intermediate completion time, the Engineer will make an inspection of the work. If the inspection discloses the work required by this intermediate completion time is substantially complete, the Engineer will notify the Contractor in writing that the work is substantially complete. If the inspection discloses the work required by this intermediate completion time is not substantially complete, the Engineer will notify the Contractor in writing of the work that is not substantially complete. The work required by this intermediate completion time will not be considered substantially complete until all of the recommendations made at the time of the inspection have been satisfactorily completed.

INTERMEDIATE COMPLETION TIME #2 AND BONUS

The Contractor shall substantially complete all work necessary, and shall place traffic on, the directional lanes not selected as part of Intermediate Completion Time #1 throughout the project limits, including ramps and loops to and from the selected lanes. This shall be defined as Direction #2.

The date of availability for this intermediate completion time is **January 5, 2005**.

The Design Build Team shall maintain traffic in the existing traffic pattern for Direction #2 throughout Intermediate Completion Time #1. This shall be accomplished without the use of temporary concrete barrier. All remaining work required to construct the final traffic pattern for Direction #2 shall not begin until after Intermediate Completion Time #1 is substantially completed nor before January 5, 2006.

The completion date for this intermediate completion time shall be no later than **November 17**, **2006**. The Department desires that this intermediate completion time be substantially completed by this date, and that the Contractor pursue the work with such labor, equipment and materials as necessary to ensure that intermediate completion time will be met without regard to the time extensions and time reliefs provided for in the Specifications, Therefore, as full compensation for all extra cost involved, the Department agrees to pay as a bonus, the sum of **Seven Hundred Fifty Thousand Dollars (\$750,000.00)** to the Contractor for substantially completing this intermediate completion time on or before **November 17**, **2006**. Should the Contractor fail to substantially complete by this date, then the normal time extension and time reliefs provided in the Specification will apply and no bonus will be paid under this intermediate completion time.

The design build teams shall state in their technical proposal, their proposed date for Intermediate Completion Time #2. If no date is proposed it shall be deemed to be November 17, 2006.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the completion date and/or intermediate completion times stated in the contract. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

SUBSTANTIAL COMPLETION for Intermediate Completion Time #2 and Bonus

The definition of substantial completion for this intermediate completion time and bonus is as follows

- 1. Through traffic has been placed along the project or along the work required by an intermediate completion time and the work is complete to the extent specified below, and all lanes and shoulders are open such that traffic can move unimpeded at the posted speed. Intersecting roads and service roads are complete to the extent that they provide the safe and convenient use of the facility by the public.
- 2. The final layers of pavement for all lanes and shoulders along the project or along the work required by an intermediate completion time are complete.
- 3. All signs are complete and accepted except for the signs on intersecting roadways.
- 4. All guardrails, barriers, drainage devices, ditches, excavation and embankment are complete.
- 5. Remaining work along the project consists of permanent pavement markings, permanent pavement markers or incidental construction that is away from the paved portion of the roadway.

Upon apparent substantial completion of the work required by this intermediate completion time, the Engineer will make an inspection of the work. If the inspection discloses the work required by this intermediate completion time is substantially complete; the Engineer will notify the Design-Builder in writing that the work is substantially complete. If the inspection discloses the work required by this intermediate completion time is not substantially complete, the Engineer will notify the Design-Builder in writing of the work that is not substantially complete. The work required by this intermediate completion time will not be considered substantially complete until all of the recommendations made at the time of the inspection have been satisfactorily completed.

ALTERNATE INCENTIVE SCENARIO

10/29/04

In lieu of the incentive scenario described in the provisions for Intermediate Completion Time #1 and Intermediate Completion Time #2 above, the Design-Build Team may elect to pursue this

alternate incentive scenario to substantially complete the entire project as quickly as possible. To accomplish this the Contractor shall meet the following requirements.

- 1. The Contractor shall select a direction of travel and shall substantially complete all work necessary, as defined in "Substantial Completion for Intermediate Completion Time #1 and Bonus," and shall place traffic on the lanes in this direction throughout the project limits, including ramps and loops to and from the selected direction prior to November 17, 2005 or any earlier date that the Design Build Team has committed to in their Technical Proposal.
- 2. For the direction not chosen above, the Contractor shall provide a minimum two thru lanes and provide the appropriate lengths for the acceleration and deceleration ramps and loops by November 17, 2005 and maintain until January 5, 2006.
- 3. The Contractor shall then substantially complete the other direction, as defined in "Substantial Completion for Intermediate Completion Time #2 and Bonus," for the entire project no later than **November 17**, 2006 or any earlier date that the Design Build Team has committed to in their Technical Proposal and following the requirements of the Traffic Control Scope of Work.

This scenario allows the contractor to place both directions of traffic on one side of the center line subject to the requirements contained herein and in the Traffic Control Scope of Work.

The date of availability for this incentive scenario is **January 5, 2005.** The Department desires that the Contractor pursue this work with such labor, equipment, and materials as necessary to ensure that the above timelines are met without regard to the time extensions and time relief provided for in the Specifications. Therefore, as full compensation for all extra costs involved, the Department agrees to pay as a bonus, the sum of **One Million Dollars (\$1,000,000)** to the Contractor for substantially completing the above work by the dates noted above. Should the Contractor fail to substantially complete either the work in the first direction or the entire project by their respective dates, then no bonus will be paid.

Only one incentive scenario may be pursued. The Design Build Team shall clearly note in their Technical Proposal which of the two incentive scenarios will be pursued and shall clearly indicate the substantial completion date in the proposal. The Contractor will be bound to this commitment and will not have the option of pursuing another incentive scenario.

When observation periods are required by the special provisions, they are not a part of the work to be completed by the above dates. Should an observation period extend beyond the final completion date, the acceptable completion of the observation period shall be a part of the work covered by the performance and payment bonds.

Upon apparent substantial completion of the work noted above, the Engineer will make an inspection of the work. If the inspection discloses the work required by this incentive scenario is substantially complete, the Engineer will notify the Contractor in writing that the work is substantially complete. If the inspection discloses the work required by this incentive scenario is not substantially complete, the Engineer will notify the Contractor in writing of the work that is

not substantially complete. The work required by this incentive scenario will not be considered substantially complete until all of the recommendations made at the time of the inspection have been satisfactorily completed.

OTHER LIQUIDATED DAMAGES AND INCENTIVES

7/13/04

Refer to the Traffic Control Scope of Work for more information on the following Intermediate Contract Time restrictions and liquidated damages:

- Liquidated Damages for lane closure, narrowing of lane, holidays and special events time restriction for US 1/US 64 and ramps/loops, is \$10,000 per hour for this Intermediate Contract Time.

TRAFFIC CONTROL SCOPE OF WORK

I. Traffic Control Plans

A. Design Parameters

Design the Traffic Control and Pavement Marking Plan for this project with the following plan parameters:

- 1. The construction of Direction #1 of US 1/US 64 shall be substantially completed, as defined in "Substantial Completion for Intermediate Completion Time #1 and Bonus", with traffic opened to its proposed pattern, (4 lane, 1 way) and the opposite direction will be returned to a minimum 2 and 3 lane, 1 way pattern by November 17, 2005. In addition, ALL accesses to Walnut Street, Crossroads Mall, and Cary Parkway shall also be returned by November 17, 2005.
- 2. No splitting or separation of traffic in the same direction is allowed, (i.e. separation by any type of barrier rail, bridge piers, existing median).
- 3. Maintain existing ramp/loop acceleration lane and taper lengths throughout the construction of this project. Any temporary acceleration lane shall meet or exceed the length of the existing acceleration lane. As minimum, provide acceleration and deceleration lanes that meet design standards where currently there are Auxiliary lanes. In no circumstance will stop signs be utilized on acceleration ramps.
- 4. Ramp closures for I-40/ I-440 will not be allowed at any time.
- 5. Approved Barrier Systems if utilized along the right side of acceleration ramps/loops shall not be located along ramp merge tapers or within 200'(61m) beyond the end of the merge taper with-L-.
- 6. Public information efforts will be required on this project to inform the appropriate audiences. (See Public Information Scope)
- 7. An internet website solely dedicated to this project will be required, including updates of information and maintenance of this project. (See Public Information Scope)
- 8. Provide a towing contractor for continuous towing 24 hours a day, 7 days a week for the duration of the project. (See Project Special Provision for Towing).
- 9. Traveler information will be required as excessive delays are experienced due to the project construction. Traffic sensors that help measure traffic volumes and congestion are required on US 1, US 64, and I-40/I-440. The information is to be displayed on Portable Changeable Message Signs with "real time" technology in advance of the area that is experiencing delays. (See Project Special Provision for Smart Zone systems).
- 10. Any temporary signal designs, temporary sign designs, temporary pavement designs (including crossovers), or temporary drainage designs will be the responsibility of the Design Build Team. The temporary designs will be reviewed and approved by the State Alternate Delivery Systems Engineer.

B. Development of the Plans:

Submit a Staging Concept, a description of the sequenced phases and steps to be followed in implementing the construction plans, of the Traffic Control Plan to the Resident Engineer and State Alternate Delivery Systems Engineer for review and acceptance. The Staging Concept for the entire project must be accepted before proceeding further with the development of the Traffic Control Plan. A complete Traffic Control Plan will not be required to begin phased construction activities on this project. If a barrier system will be used, the Staging Concept will need to identify what barrier system will be proposed for approval by the State Alternate Delivery Systems Engineer.

Construction may begin on a Phase once the Traffic Control Plan for that Phase has been accepted by the State Alternate Delivery Systems Engineer and sealed by the Design Build designer.

The Traffic Control Plan must identify all maintenance of traffic needs, including lane closures, road closures, traffic control devices, temporary lane markings, construction signing, phasing, project notes and other possible needs. The plan will identify lane widths, transition taper widths and any geometry necessary to define placement of devices and temporary roadway alignments, including crossovers. The Traffic Control Plan will show the pavement design to be used for temporary roadway pavements and pavement markings/markers for temporary patterns on existing/proposed/temporary roadways. NCDOT's 2002 Roadway Standard Drawings - Sections 1100 and 1200 are for traffic control and will need to be incorporated into the plans for most work activities. Detailed phasing plans will be required where traffic control activities and device placement cannot be entirely covered by these standard drawings. Sealed and accepted plans showing all pavement markings which are not covered in the NCDOT's 2002 Roadway Standard Drawings are required prior to placement of any temporary markings and temporary markers. Ensure the development of the Traffic Control Plan is in compliance with the NCDOT 2002 Roadway Standard Drawings, NCDOT 2002 Standard Specifications for Roads and Structures, and the 2003 Manual on Uniform Traffic Control Devices (M.U.T.C.D.).

Develop Traffic Control Plan details at a scale of 1"=50' (metric 1:500) and overviews at a scale of 1"=100' (metric 1:5000) unless otherwise agreed upon. Use the Requirements for the preparation of Traffic Control & Pavement Markings plans, which can be found on the Traffic Control website, as a guideline to developing plans. The Traffic Control Website also provides other key information necessary in preparing the Traffic Control Plans and is continuously updated. Traffic Control Website is located at the address shown below.

http://www.doh.dot.state.nc.us/preconstruct/traffic/congestion/tc/

Use traffic control devices that conform to all NCDOT requirements and are listed on the Department's Approved Products List as shown on NCDOT's Traffic Control Website. Use of devices not shown on the Approved Product List will need approval from the Traffic Control Unit.